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IN THE

Supreme Court of the United States

ENVIRONMENTAL DEFENSE, ET AL.,
Petitioner,

v.

DUKE ENERGY CORPORATION,
Respondent.

ON WRIT OF CERTIORARI TO THE TO THE UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

BRIEF OF AMICI CURIAE STAPPA AND ALAPCO IN SUPPORT OF PETITIONER

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INTEREST OF AMICI[1]

STAPPA[2] and ALAPCO[3] are the national organizations of state and local clean air agencies in 54 states and territories and over 165 metropolitan areas across the country. Under the Clean Air Act ("CAA"), the member agencies of STAPPA and ALAPCO have the task of developing and implementing air pollution control strategies that will protect public health and the environment throughout the nation. Our member agencies are charged with improving air that is polluted and preventing deterioration of clean air. Amici submit this brief because restoring the long-standing U.S. Environmental Protection Agency ("EPA") interpretation of the New Source Review ("NSR") rule that requires the installation of modern pollution controls is necessary for our member agencies to fulfill their statutory obligations.

INTRODUCTION

STAPPA and ALAPCO ask this Court to reverse the lower court's decision because it would prevent states and local agencies from achieving the health and environmental goals of the CAA. The number of people exposed to

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[1] The parties have consented to the filing of this brief. Letters of consent are being filed in conjunction with this brief. Pursuant to this Court's Rule 37.6, counsel states that this brief was not authored in whole or in part by counsel for a party and that no one other than amici and their counsel made a monetary contribution to the preparation or submission of this brief.

[2] The acronym "STAPPA" stands for State and Territorial Air Pollution Program Administrators.

[3] The acronym "ALAPCO" stands for Association of Local Air Pollution Control Officials.

pollution levels greater than the EPA's health-based National Ambient Air Quality Standards ("NAAQS") for ozone has been recently estimated at 158.5 million, and for fine particulate matter ("$PM_{2.5}$") at 88.4 million. *See* EPA 8-HOUR OZONE SUMMARY, *at* http://www.epa.gov/oar/oaqps/greenbk/gnsum.html; and EPA PARTICULATE MATTER ($PM_{2.5}$) NONATTAINMENT AREA SUMMARY, *at* http://www.epa.gov/oar/oaqps/greenbk/qnsum.html (last visited July 19, 2006). Pollution also adversely affects environmental quality in our national parks, state parks, and many other less urbanized areas. *See, e.g.*, NATIONAL PARK SERVICE, "AIR QUALITY IN THE NATIONAL PARKS" 9 (2002); RESOURCES FOR THE FUTURE, "VALUATION OF NATURAL RESOURCE IMPROVE- MENTS IN THE ADIRONDACKS" 26 (2004).

New Source Review is one of the tools provided state and local agencies by the CAA to manage air quality. In areas where pollution levels exceed NAAQS, NSR is a means to reduce emissions in order to attain health-based standards. NSR is also a strategy to prevent deterioration of clean air resources in order to protect national parks and other lands designated in the CAA, 42 U.S.C. § 7472, and to provide air resources to support industrial growth. NSR also serves as a tool to protect against transported pollutants, such as $PM_{2.5}$ and ozone. These pollutants are formed through chemical reactions in the atmosphere involving sulfur dioxide ("SO_2") and nitrogen oxides ("NO_x") emitted by sources outside nonattainment areas, such as electric generating units ("EGUs").

The continuing excessive emissions from superannuated coal-fired EGUs are the single largest industrial contributor to concentrations of SO_2, NO_x, ozone and $PM_{2.5}$. Seventy-one percent of the nation's coal-fired capacity is between 26 and 56 years old, with emission rates for SO_2 ranging from more than double to quadruple the emission rates of modern coal-fired units built since 1990. NATIONAL RESEARCH COUNCIL OF THE NATIONAL

ACADEMIES, "INTERIM REPORT OF THE COMMITTEE ON CHANGES IN NEW SOURCE REVIEW PROGRAMS FOR STATIONARY SOURCES OF AIR POLLUTANTS" 54, tbl.3-3 (2005). Many of these obsolete EGUs have required or will require major investments in "life-extension" projects to keep them operating. The fundamental practical question presented in this case is whether these old coal-fired EGUs, the largest and least controlled industrial sources of pollution in the country, will be required to install modern pollution control equipment when investments are made to extend their lives.

STAPPA and ALAPCO submit this brief to (1) express agreement with the petitioners' view of the law; (2) show that affirming the lower court's ruling will adversely affect the nation's air quality; (3) inform the Court that reversing the lower court's decision is necessary for state and local agencies to obtain the emission reductions needed to attain and maintain federal health-based air quality standards and protect our natural resources; (4) demonstrate that, contrary to Congressional intent, the lower court's decision would hinder economic growth and slow the modernization and clean up of our nation's energy sector; and (5) relate our concerns about the consequences for state and local clean air agencies of opening the door to collateral attacks on EPA's clean air regulations.

ARGUMENT

I. THE LOWER COURT DECISION IS CONTRARY TO THE CLEAN AIR ACT

State and local air pollution control officials agree with petitioners that the lower court decision is at odds with the fundamental objectives of NSR and the CAA. The purpose of NSR is to require major polluting facilities

"grandfathered" under the Clean Air Amendments of 1970, P.L. 91-604, 84 Stat. 1676, to be cleaned up whenever they undergo a renovation that increases emissions. *See, e.g.*, NATIONAL ACADEMY OF PUBLIC ADMINISTRATION, "A BREATH OF FRESH AIR: REVIVING THE NEW SOURCE REVIEW PROGRAM" 14 (2003), referring to the

> clear assumption of Congress that older, high-emitting sources would gradually be upgraded or phased out. Then, once a grandfathered facility makes any changes or is replaced, NSR is triggered and requires it to install improved technologies that will prevent or control pollution. The Panel believes these requirements are, without question, designed to lead to an overall reduction in emissions from existing sources.

See also Alabama Power v. Costle, 636 F.2d 323, 400 (D.C. Cir. 1979) ("The statutory scheme intends to 'grandfather' existing industries; but the provisions concerning modifications indicate that this is not to constitute a perpetual immunity from all standards under the PSD program."); *Wisconsin Electric Power Co. v. Reilly ("WEPCO")*, 893 F.2d 901, 909 (7th Cir. 1990) ("Congress did not permanently exempt existing plants from these requirements."). The lower court's ruling is contrary to this purpose because it would exempt essentially all life-extension and other renovation projects from NSR.

II. THE LOWER COURT RULING WILL ADVERSELY AFFECT AIR QUALITY

If, as the lower court ruled, the test of whether NSR applies when existing sources are renovated must be the same as the applicability test for New Source Performance Standards ("NSPS"), 42 U.S.C. § 7411(a)(4), then virtually

all renovations on existing industrial sources of air pollution will be exempted from installing modern pollution controls. As the former head of EPA's Office of Air Quality Planning and Standards wrote, "no existing unit has become subject to new source performance standards (NSPS) under . . . the modification . . . program."[4] State and local air pollution control officials are aware of only one case, memorialized in *WEPCO*, 893 F.2d at 901, where an hourly increase in EGU emissions triggered NSR.

An hourly increase test would affect emissions in two ways. First, emissions from renovated old units will increase because they will be operated more after repair. Second, emission reductions that would have been achieved by the installation of state-of-the-art pollution control technology under NSR will be foregone. The net effect is to expose the public to significantly more air pollution.

A typical example may illustrate the point. Because of breakdowns and deterioration, an aging medium-sized (400 MW capacity) coal-fired EGU may be capable of operation at only 45 percent of its capacity. Burning medium sulfur coal without SO_2 emission controls, such a unit might emit 25,000 tons per year ("tpy") of SO_2 prior to a life-extension modification. Because of replacement of worn components, the unit might be operated 75 percent of capacity after the life-extension project. Since the EGU now generates two-thirds more electricity than it did before, the uncontrolled annual SO_2 emissions from the unit now increase to 41,666 tpy.

Under EPA's long-standing interpretation of NSR, the increase in annual emissions in this example would be subject to NSR. A modified unit subject to NSR typically would be required by state and local agencies to control SO_2

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[4] Letter from John Seitz, Director, U.S. EPA Office of Air Quality Planning and Standards, to the Honorable Robert C. Byrd (Jan. 26, 1996).

emissions with "scrubber" technology. Installing a scrubber would eliminate at least 95 percent of the SO_2 emissions. This would reduce the example EGU's SO_2 emissions from 41,666 tpy to 2,083 tpy or lower – a net reduction from the post-modification emissions of at least 39,583 tpy.

Under an hourly rate applicability test, NSR would not be triggered, and no scrubber would be installed. Hence, the net effect of applying an hourly rate test to this example, rather than the long-standing EPA annual tonnage increase test, would be to allow 39,583 tpy more emissions.

Enforcement cases brought by the U.S. Department of Justice and EPA confirm that electric utility life-extension projects have resulted in large emission increases (although they do not quantify the foregone decreases in emissions). In *U.S. v. Ohio Edison Co.*, (S.D. Ohio 2003), Judge Sargus ruled that 11 life-extension projects undertaken by Ohio Edison increased emissions of SO_2 by 14,921 tpy. 276 F.Supp.2d 829 at 869-874. In *U.S. v. American Electric Power Service Corp.*, 137 F.Supp.2d 1060 (S.D. Ohio 2001), the Department of Justice's expert witness Dr. Richard A. Rosen determined the emission increases resulting from 33 of the 47 life-extension projects undertaken by American Electric Power ("AEP") for which data were available at the time. Using AEP's own projections of the expected increase in operation of each unit, he calculated actual emissions before and after each life-extension project. Rosen Expert Report 38-39.[5] Dr. Rosen determined that, as a result of the life-extension projects, emissions of SO_2 from the units in question would increase 115,789 tpy, while NO_x emissions would increase 15,071 tpy. *Id.* Similarly, the EPA Environmental Appeals Board found in *In re TVA*, 9 E.A.B. 357 (2000), that life- extension projects undertaken by the

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[5] For the convenience of the Court, relevant excerpts of Dr. Rosen's expert report are attached as Appendix A.

Tennessee Valley Authority on just four units resulted in SO_2 emission increases of 15,077 tpy, and NO_x emission increases of 42,005 tpy.

Indeed, in the case below, *U.S. and Envtl Defense, et. al v. Duke Energy*, 278 F.Supp.2d 619 (M.D. N.C. 2003), the district judge heard testimony that the 27 life-extension projects undertaken by Duke Energy resulted in substantial increases in emissions. Using Duke's own projections of the increased operation of these units after the projects, expert witness Ranajit Sahu calculated the increase in emissions that would result. Sahu Expert Report 42-45.[6] He found that, as a result of the increased post-life-extension operation of the units, emissions of SO_2 increased 68,466 tpy; NO_x emissions increased 26,128.3 tpy; PM emissions increased 5,574.4 tpy; and PM_{10} emissions increased 3,734.6 tpy.

The point of our hypothetical example is also confirmed by a report by the EPA Inspector General. The report, published in 2004, indicated that if all nine then-pending NSR enforcement cases were successful, they would result in total SO_2 emission reductions of 1,750,361 tpy and NO_x emission reductions of 628,865 tpy nationally. OFFICE OF THE INSPECTOR GENERAL, ENVTL PROTECTION AGENCY, "NEW SOURCE REVIEW RULE CHANGE HARMS EPA'S ABILITY TO ENFORCE AGAINST COAL-FIRED ELECTRIC UTILITIES" 25 (2004).

III. STATE AND LOCAL AGENCIES CANNOT MEET THEIR OBLIGATIONS TO ATTAIN NAAQS AND PROTECT THE ENVIRONMENT WITHOUT EMISSION REDUCTIONS FROM EXISTING EGUS

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[6] Relevant excerpts of Dr. Sahu's expert report are attached as Appendix B.

State and local officials are responsible under the CAA for developing and implementing air pollution control programs that will attain and maintain the health-based NAAQS. Agencies are also responsible for managing air resources to prevent deterioration of air quality where it is better than the NAAQS. In order to accomplish these objectives, they need emission reductions from existing EGUs and other industrial units required by NSR. As the long history of air pollution control under the CAA demonstrates, there are many obstacles that state and local agencies must overcome to attain the NAAQS. An hourly emission rate test for NSR applicability would present a new – and probably insuperable – obstacle.

Currently EPA classifies 119 areas in 462 counties as "nonattainment" for the 8-hour ozone NAAQS, EPA 8-HOUR OZONE SUMMARY, *supra*, and 39 areas in 208 counties as nonattainment for $PM_{2.5}$, EPA PARTICULATE MATTER ($PM_{2.5}$) NONATTAINMENT AREA SUMMARY, *supra*. If the test for NSR applicability were an hourly emission increase, state and local officials responsible for attaining and maintaining the ozone and $PM_{2.5}$ NAAQS in these areas would be faced with an impossible task. To return to the example in the previous section, what can a state or local agency do to make up for the loss of 39,583 tpy of SO_2 emission reductions from our hypothetical EGU that no longer must undergo NSR?

In fact, that many tons of emission reductions are not available elsewhere. Large existing coal-fired EGUs account for about 76 percent of all point source emissions of SO_2; 57 percent of NO_x; and 41 percent of $PM_{2.5}$. National Academies Report, *supra*, at 49-50 figs.3-8, 3-9, 3-10. Moreover, to the extent substitute emission reductions are available from other emitters, they will be far more expensive, since the most cost-effective emission reductions come from large uncontrolled sources, such as EGUs.

STAPPA member STAPPA member New Jersey Department of Environmental Protection ("NJDEP")

demonstrates how crucial EGU emissions reductions are. The state is now in the second year of a process to identify strategies to attain the air quality standards for 8-hour ozone and $PM_{2.5}$. The NJDEP is now focusing on about 60 potential emission reduction measures, which are described in white papers posted at www.nj.gov/dep/airworkgroups/docs/wp_summary_table_web.xls. Aside from controls on EGUs, the four most effective measures identified to reduce SO_2 (a major contributor to $PM_{2.5}$) can achieve a total reduction statewide of less than 14,000 tpy. These measures include significantly reducing the sulfur content of home heating oil; further tightening emission controls at New Jersey's refineries (which are already heavily controlled); and reducing sulfur in heavy oil used in industrial and commercial boilers. The emission reductions potential of each of the other SO_2 measures identified is far less than these. By contrast, installing SO_2 scrubbers on existing New Jersey coal-fired EGUs that currently do not have SO_2 pollution control technology will achieve almost 60,000 tpy of SO_2 emission reductions.[7]

If clean air agencies are unable to find sufficient alternative emission control measures to demonstrate that they can attain NAAQS and obtain EPA approval, states and localities face sanctions mandated by the CAA. These sanctions include a cutoff of federal highway funds and requirements that new industrial sources offset emission reductions at a two-to-one ratio – effectively a ban on new construction. 42 U.S.C. § 7509(b). State failure may also result in the air pollution control program being taken over by the federal government. *See, e.g.*, 42 U.S.C. § 7410(c).

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[7] New Jersey will be able to achieve this emission reduction from its coal-fired EGUs because of a settlement in an NSR case that preceded the lower court decision. Hence in New Jersey, NSR settlements will provide the majority of the SO_2 reductions needed to achieve the $PM_{2.5}$ NAAQS.

State and local air pollution control officials do not agree with those who argue that exempting existing sources from NSR will not affect air quality because of other programs that EPA has adopted, such as the "Clean Air Interstate Rule" ("CAIR"). 70 Fed. Reg. 25,162 (May 12, 2005). The CAIR program places a cap on emissions of SO_2 and NO_x from the 28 states in the eastern half of the country, and allows states to opt into an emission trading program for covered emitters. While potentially economically efficient, CAIR incorporates a number of features that render it an inadequate substitute for NSR. First, CAIR does not apply at all in the 22 western States. 40 C.F.R. § 51.123(c). Second, CAIR addresses only emissions of SO_2 and NO_x, while NSR addresses, in addition, particulate matter, volatile organic compounds, and carbon monoxide, all of which can be expected to increase if existing sources are effectively exempted from NSR. Third, because CAIR allows units to buy emission "allowances" rather than reduce emissions, state and local agencies cannot assure the citizens affected by a particular unit that it will install state-of-the-art pollution control technology. 70 Fed. Reg. 25,162, 25,175 (May 12, 2005).

Fourth, and perhaps most important, the emission reductions promised by CAIR would not be fully realized for nearly a generation. CAIR requires no emission reductions whatsoever for the first five years, and the emissions cap is not binding until 2015. 40 C.F.R. § 51.123(e)(2). But because of the structure of the allowance market created by CAIR, EPA expects that the annual emissions in the covered states will continue to exceed the cap until some time after 2020. U.S. EPA, OFFICE OF AIR & RADIATION BRIEFING, "CLEAN AIR INTERSTATE RULE (CAIR)" 16 (2005), *available at* http://www.epa.gov/cleanairinterstaterule/charts_files/cair_final_presentation.pdf (last visited July 18, 2006) *See also* 70 Fed. Reg. 25,162, 25,166 n.4 (May 12, 2005). Information released recently by EPA indicates that, despite

CAIR, only 187 of 975 existing coal-fired EGUs (19 percent) are projected to be equipped with SO_2 "scrubbers" and Selective Catalytic Reduction ("SCR") units to control NO_x by 2010. By 2020 the number of controlled EGUs is expected to improve only to 328 of a then-projected 1041 EGUs (31 percent).[8]

Similarly, neither the "acid rain" program of Title IV of the CAA, nor the "NO_x SIP call," 63 Fed. Reg. 57,356 (Oct. 27, 1998); 65 Fed. Reg. 2,674 (Jan. 18, 2000), can substitute for NSR. Like CAIR, the acid rain program applies only to SO_2 and NO_x emissions from large EGUs, while the NO_x SIP call applies only to NO_x emissions from industrial sources (including EGUs). Most important, like CAIR, both programs provide for trading of emission allowances by affected emitters, so state and local agencies cannot assure citizens near any particular unit that emission controls will be installed on that unit.

Likewise, STAPPA and ALAPCO do not regard the CAA's visibility protection program, 42 U.S.C. §§ 7491-7492, as an adequate substitute for NSR. This program requires that "best available retrofit technology" ("BART") eventually be installed on certain existing sources that contribute to degraded visibility in the national parks, wilderness areas, and wildlife refuges. 42 U.S.C. § 7491(b)(2)(A). But BART applies only to a relatively few very large existing sources that were in operation between 1962 and 1977. 42 U.S.C. § 7491(b)(1)(A).

Finally, the majority of state and many local agencies cannot adopt their own regulations as substitutes for the NSR program. A ruling that binds EPA to an hourly rate applicability test also binds at least 13 states that administer

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[8] Testimony of William Wehrum, Acting Assistant Administrator for Air and Radiation, U.S. EPA, before the United States Sen. Comm. on Environment and Public Works, Subcomm. on Clean Air, Climate Change, and Nuclear Safety (Feb. 9, 2006).

the NSR program in clean air areas by "delegation" from EPA rather than under their own authority. Moreover, nearly half the state agencies are subject to state laws or policies that prohibit them from adopting any regulation more stringent than the minimum federal law.

IV. THE LOWER COURT RULING WILL LIMIT ECONOMIC GROWTH

An NSR program that effectively exempts renovated units from installing modern pollution control technology will limit economic growth. So long as old, polluting EGUs and other obsolete industrial units largely monopolize the nation's air resources, the opportunity for the addition of new productive capacity will be unnecessarily limited.

NSR is therefore a critical management tool used by state and local air pollution control officials to increase the potential for economic growth consistent with air quality objectives. When major capital investments are made in existing units there is an opportunity to increase an area's available air resources by requiring installation of pollution control equipment. If existing units are allowed to continue consuming a disproportionate share of the air resources, the supply of air resources available to support further economic growth will be limited.

The hypothetical example described in Section II above illustrates how the lower court's ruling would allow existing emitters to use excessive air resources. In the example, as in many real cases encountered by state and local officials, the lower court's interpretation would allow the refurbished old unit to emit 39,583 tpy more than if available pollution controls were installed. Installing a scrubber would make 39,583 tpy of air resources available to support additional industrial growth and to improve the quality of the environment.

Such pollution reductions are consistent with Congress' intent when it adopted the NSR program as a part of the program to prevent significant deterioration of air quality ("PSD"). The 1977 House Report calls PSD a "necessary economic measure designed to encourage wise use of scarce air resources and to preserve the potential for long-term economic growth." H.R. Rep. No. 95-294, at 133 (1977). By requiring pollution control equipment on both new and modified sources, the PSD program would maximize the air resources available for economic development:

> Obviously there is only a limited amount of clean air resources in all parts of the country. If new plants are built in ways which disregard the obvious limits of our air resources, then fewer plants will absorb all available air resources. But if each new or modified major source is located, constructed and operated so as to minimize its impact on available clean air resources, then more and bigger plants will be able to locate in the same area without serious air quality deterioration.

Id. at 133 (1977).

The lower court ruling, if not reversed, would turn the Congressional intent on its head. Older EGUs that have already been "grandfathered" for as long as 36 years would be rewarded by an indefinite extension of the exemption, and allowed to commandeer additional scarce air resources in perpetuity for their increased operations. The temporary exemption intended by Congress in 1970 would become permanent, while grandfathered emitters would effectively be able to override any air resource management options available to state and local air quality officials.

V. THE LOWER COURT RULING WILL HINDER THE MODERNIZATION OF AMERICAN ENERGY INFRASTRUCTURE

Some have argued that companies will be deterred from improving the efficiency of existing units if they are required to install modern pollution controls when they invest in life-extension projects. To the contrary, efficiency gains come from replacing obsolete units with new ones. By forcing old units to address their public health and environmental externalities, NSR levels the playing field for innovation.

In adopting NSR, Congress intended that facilities would have "incentives for improved technology," that those improvements would "become widespread far more rapidly," and that vendors of cleaner technologies would have a "guaranteed market." *See* S. Rep. No. 95-127, at 31 (1977), *reprinted in* 1977 CRS Legislative History 1371, 1405; *See also* H.R. Rep. No. 95-294, at 186 (1977), *reprinted in* 1977 CRS Legislative History 2465, 2653.

The lower court's ruling is entirely contrary to this objective of NSR. It would allow many existing plants to increase their emissions with little or no improvement in the efficiency of their operations. Breakthrough technology gains do not happen by maintaining and repairing obsolete production capacity, but instead come when new plants are brought on line. The efficiency of new state-of-the-art electric generation facilities today is far higher than was standard in the 1970s.

Any modest efficiency improvements that might result from life-extension projects at units avoiding NSR would be eclipsed by increased hours of operation and extended years of service, resulting in greater overall emissions.

Moreover, by allowing old, dirty plants to extend their operational lives without having to install the modern

pollution controls required of new facilities, while new plants incur higher environmental costs, an hourly rate applicability test for NSR would give old plants a perverse advantage when it comes to bidding for power supply contracts. As in any sector, financial capital is limited within the power industry. The lower court's decision would divert capital from developing new clean plants to maintaining old dirty ones because older units that were renovated without installing pollution controls would be able to generate power more cheaply than cleaner new units. So long as one set of competitors is required by law to internalize the societal costs of air pollution while another set is granted almost indefinite exemptions, the nation's energy markets and economy will be distorted and its air quality impaired.

Exempting obsolete EGUs and other industrial sources from NSR would nullify the CAA's incentive to encourage lower emissions by stimulating the development of advanced, cleaner, more efficient electric generating technologies. *See* 42 U.S.C. § 7475(a)(4). Congress first adopted "technology forcing" in the Clean Air Amendments of 1970, *Alabama Power,* 636 F.2d at 372, in order to achieve the CAA's public health and environmental goals.[9]

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[9] The federal courts have consistently upheld the CAA's goal to stimulate technological innovation as a way to achieve higher environmental goals. In 1973, the U.S. Court of Appeals for the District of Columbia Circuit rejected the argument that EPA was limited to standards requiring "technology in being as of the time of the application." *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 629 (D.C. Cir. 1973); *see also Natural Resources Defense Council v. Thomas*, 805 F.2d 410, 429 (D.C. Cir. 1986); *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973); *Natural Resources Defense Council v. EPA*, 655 F.2d 318, 328 (D.C. Cir. 1981)("EPA was 'expected to press for the development and application of improved technology rather than be limited by that which exists today.'" [citations omitted]); *WEPCO* 893 F.2d at 909-10 (7th Cir. 1990) ("[I]n passing the Clean Air Act Amendments, Congress intended to stimulate the advancement of pollution control technology."); *Husqvarna v. EPA*, 254 F.3d 195 (D.C.

Technologies developed in response to this policy, such as automobile emission control technologies, sulfur oxide scrubbers, and NO_x-removing SCR units, have reduced emissions even as the American economy has grown several-fold since 1970.

VI. STATE AND LOCAL AGENCIES NEED CERTAINTY REGARDING FEDERAL ENVIRONMENTAL REGULATION

For 36 years, the CAA has been interpreted to require any challenge to nationally-applicable EPA regulations to be filed within a limited time after promulgation and decided in the United States Court of Appeals for the District of Columbia Circuit. *Harrison v. PPG Indus., Inc.*, 446 U.S. 578, 588–592 (1980); *1000 Friends of Maryland v. Browner*, 265 F.3d 216, 223 (4th Cir. 2001); *Massachusetts v. EPA*, 415 F.3d 50, 53 (D.C. Cir. 2005); *Ohio Public Interest Research Group, Inc. v. Whitman*, 386 F.3d 792, 799 (6th Cir. 2004); *U.S. v. Ho*, 311 F.3d 589, 607 (5th Cir. 2002); *Indianapolis Power & Light Co. v. EPA*, 38 Fed. Appx. 613, 614 (D.C. Cir. 2002); *National Petrochemical & Refiners Ass'n v. E.P.A.*, 287 F.3d 1130, 1150 (D.C. Cir. 2002); *Environmental Defense Fund v. Thomas*, 870 F.2d 892, 896 (2nd Cir. 1989). Other federal environmental laws are patterned after the CAA, limiting the time of filing for review. Resource Conservation and Recovery Act ("RCRA") § 7006, 42 U.S.C. § 6976 (a)(1); Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") § 113(a), 42 U.S.C. § 9613(a). Surface Mining Control and Reclamation Act of 1977, § 526(1), 30 U.S.C. § 1276(a)(1); Toxic Substances Control Act, 15 U.S.C. § 2618(a)(1)(A)

Cir. 2001) ("Congress intended the agency to project future advances in pollution control capability.") (citing *NRDC*, 805 F.2d at 410).

(1998). CERCLA and RCRA also place exclusive jurisdiction to review EPA regulations in the D.C. Circuit.

As a result, challenges to EPA regulations adopted under the Clean Air Act have been resolved expeditiously and with finality. As state and local air pollution control officials, we believe this feature has been important to the workability and success of the CAA.

Expeditious and final resolution of litigation against EPA rules has allowed state and local agencies the certainty they need in order to carry out their duties under the Clean Air Act. Many CAA programs require state and local agencies to develop complex regulatory structures on a statutory timetable. *See, e.g.*, 42 U.S.C. § 7410 (State Implementation Plan); 42 U.S.C. § 7412(*l*) (Implementation of Hazardous Air Pollutant program); (42 U.S.C. § 7429(b)(2) (Enforcement Plan for Solid Waste Combustion Guidelines); 42 U.S.C. § 7471 (PSD program); 42 U.S.C. §§ 7502 and 7511 (Nonattainment plan provisions); 42 U.S.C. § 7661a(d) (Permit programs).

The lower court's decision would unfortunately open a door to collateral attack on EPA's CAA regulations that would make it difficult for a state or local agency to administer its air pollution control programs in a rational manner. Under the lower court decision, the members of STAPPA and ALAPCO fear that no federal regulation would ever have a settled and reliable meaning. To extend the period of uncertainty over EPA regulations would make it difficult for state and local agencies to meet statutory deadlines. Thus affirming the lower court's end run on Section 307 of the CAA would weaken the ability of state and local air pollution agencies, who best understand local circumstances, to deal with air pollution within their boundaries.

CONCLUSION

For the foregoing reasons, amici STAPPA and ALAPCO support the petitioners' position that the lower court decision should be reversed.

Respectfully submitted.

JULY 21, 2006

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APPENDIX

APPENDIX A

Richard Rosen
Expert Testimony Report
On Behalf of the United States of America, the State-Intervenor Plaintiffs, and the Citizen Plaintiffs

August 2, 2004 (Revised May, 4 2005)

In the United States District Court for the Southern District of Ohio, Eastern Division

Civil Action No. C2-99-1182
United States of America v. American Electric Power Service Corp.
Civil Action No. C2-99-1250
Ohio Citizen Action v. American Electric Power Service Corp.

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10.2 Calculation #2: Actual Emissions Compared to Projected Future Actual Emissions Based on Company Projections

In this calculation, I examined AEP's own projections of re-gained availability heat rate, and capacity from each generating unit that was expected to occur as a result of each activity where that data was available in the relevant Capital Improvement Requisition form (to the extent such projections were made). I then translated that recovered availability, heat rate, and/or capacity once the activity was completed into a change in generation, and subsequently into a change in emissions. For the 47 activities at the AEP units studied, adequate data was only available for 33 activities as of the present time. The results of these calculations appear in Table 4.

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Table 4
NSR/PSD Net Emissions Increases
-Calculation #2-
Actual to Projected Future Actual Based on Company Data

		SO_2	NO_x	PM or PM_{10}
Activity #	CIR#	(Tons per Year)		
AM1	12012	221	174	1
AM2	12130	104	82	0
AM5	12473 (APCo) 72778 (OPCo)	51	-13,286	0
CD1	71448/ 71516	11,592	4,182	-1.637
CD2	72201	608	154	2
CD3	72373	8,353	2,136	26
CD4	71449/ 71517	11,094	3,887	-3,881
CD5	98066	621	154	2
CD6	98085	8,942	2,361	30
CR1	12502	316	386	2
CR2	12502	327	390	2
CR3	12502	323	385	2
CV1	75140	1,797	529	1
CV2	75246	1,879	554	1
MI1	72462	268	125	1
MI3	72206	559	224	2
MR1	72172	1,779	320	3

MR3	72173	2,141	386	4
MR5	72162/ 72254/ 72258	6,606	1,252	10
MR7	72163/ 72255/ 72259	6,233	1,219	9
MR8	72398	1,434	272	2

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MR11	71450/ 71505/ 71665	25,915	4,845	-1,669
MR12	72202	889	158	2
MR13	71966	7,368	1,440	27
MR 14	72372	12,902	2,434	33
SP1	12147/ 12166	248	177	1
SP2	72421T 72466	255	172	1
SP3	72464	47	32	0
SP4	12148	273	181	1
SP5	72429	239	176	1
SP8	72393	477	267	3
TC2	31140	1,002	348	1

TC4	31737	926	-1,045	1

APPENDIX B

Ranajit (Ron) Sahu
Expert Testimony Report
On Behalf of the United States

August 1, 2002

In the United States District Court for the Middle District of North Carolina

Civil Action No. 1:00 CV 1262
United States v. Duke Energy Corporation

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VI.1.2. *PSD Emissions Comparison Tests*

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1. Prior Two Year Actual Average Emissions Versus Potential to Emit After Modification

In this method, the actual emissions for the prior 24 continuous months (two years) before the modification[10] were calculated and compared with potential to emit for the unit after modification. In other words, the Unit Calculations A and B discussed earlier were performed and compared

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2. Before and After Modification Emissions Difference Based on Company Capacity Factor Projections

In this method, the emissions "delta" is estimated by comparing the baseline emissions as calculated using Unit Calculation A (using the period 24 months prior to the modification for modification when the WEPCO Rule did not apply or using the 24 month period within the prior 60 month period with the highest emissions for modification when the WEPCO Rule applied) with the company

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projection calculations conducted using Unit Calculation C discussed earlier. In making this comparison, I used the

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[10] The smallest calculation time period is a calendar month. It is also assumed that a particular modification was initiated and completed within a specific outage that began on a certain date and ended on a certain date. Depending on the starting date of the outage, either the previous full calendar month (if the outage began towards the beginning of a calendar month) or the month of the outage itself (if the outage began towards the end of a calendar month) was used as the last month before the outage.

company projections for future years 9 and 10[11] [in one case (Buck 3) only years 8 and 9 were available and in another case (Belews Creek Unit 2, 1999 Mod) years 8 and 9 were used since year 10 had a non-representatively low capacity factor presumably due to an anticipated turbine outage] with the prior 24 month baseline.

3. Emissions Change Based on GADS Activity Factor Data for Two Years Before Modification

In this method, the emissions change corresponding to a particular modification was directly estimated based on GADS-based activity factors such as recovered capacity, appropriately adjusted for capacity or utilization factor, as needed. In other words the Unit Calculation D discussed earlier was used to estimate this emissions change directly. For units that entered the PMP program, GADS loss data are often sparse. This is because, even prior to entering PMP, these units were not running very often and, there was ample opportunity to make relevant repairs to components, as needed, during such downtime.

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[11] The preferred choice to use years 9 and 10 (or 8 and 9 as noted above) for this comparison was made based on several consideration: (a) Duke has made projections as far as 10 years for a reason, namely that the 10 year planning horizon was a reasonable basis for future unit operations; (b) in the case of the PMP units, Duke's decision to gradually ramp up the unit capacities factors in the years following PMP (essentially converting these previously peaking or load-following units into base-loaded units as its system load increased) rendered the choice of other years (say years 1 and 2 or years 4 and 5, for example) moot since these other choices would not be compatible with how Duke intended to run the units in the foreseeable future; (c) years 9 and 10 were the farthest future years with forecasted capacity projections that shed light on Duke's intended plan for running its units; and finally, (d) consistency in using similar time frames for all units for purposes of making emissions estimates.

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Table 1 – Summary Emissions Increase Results (Tons/Yr) for PSD Applicability

Modification/ Comparison Test	**Pollutant[1]**			
	SO_2	**NO_x**	**PM**	**PM_{10}[2]**
PSD Significant Emissions Rate (SER)	***40***	***40***	***25***	***15***
	SO_2	**NO_x**	**PM**	**PM_{10}[2]**
Modification #6-Allen 1 (1989)				
Comparison Test 1	11496.5	4538.1	1527.7	1023.6
Comparison Test 2	3430.4	1857.1	620.3	415.6
Comparison Test 3	55.7	30.1	10.1	6.8
Modification #5-Allen 2 (1988)				
Comparison Test 1	12559.4	4957.7	2782.4	1864.2
Comparison Test 2	2991.6	1610.3	690.1	462.4
Comparison Test 3	34.2	17.7	6.8	4.6
Modification #23-Allen 3 (1994)				
Comparison Test 1	15845.6	2377.0	1468.4	983.8
Comparison Test 2	1705.0	-	237.4	158.8
Comparison Test 3	21.5	5.6	1.6	1.1
Modification # 3-Allen 4 (1996)				
Comparison Test 1	13594.2	2235.0	773.4	518.2
Comparison Test 2	260.1	-	-	-
Comparison Test 3	195.3	65.0	11.3	7.6
Modification #4-Allen 4 (1998)				
Comparison Test 1	11124.6	2751.0	1330.3	891.3

Comparison Test 2	2114.6	872.9	597.0	400.0
Comparison Test 3	150.3	60.6	14.5	9.7
Modification #2-Allen 5 (1996)				
Comparison Test 1	14294.1	2210.9	1718.2	1151.2
Comparison Test 2	3324.4	191.2	408.7	273.8
Comparison Test 3	234.3	79.4	27.8	18.6
Modification #1-Allen 5 (2000)				
Comparison Test 1	8153.1	2395.1	-	-
Comparison Test 2	880.0	481.3	-	-
Comparison Test 3	229.7	89.0	10.0	6.7
Modification #9-Belews Creek 1 (2000)				
Comparison Test 1	14909.3	-	-	-

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Comparison Test 2	-	-	-	-
Comparison Test 3	1319.8	537.2	35.5	23.8
Modification #8-Belews Creek 2 (1996)				
Comparison Test 1	33644.4	22678.3	1077.5	721.9
Comparison Test 2[3]	-	-	-	-
Comparison Test 3	202.0	222.5	8.7	5.8
Modification #7-Belews Creek 2 (1999)				
Comparison Test 1	15719.2	-	-	-
Comparison Test 2[4]	-	-	-	-
Comparison Test 3	331.3	147.3	11.0	7.4

Modification #12-Buck (1994)				
Comparison Test 1	6208.8	3063.6	369.4	247.5
Comparison Test 2	873.4	278.7	44.6	29.9
Comparison Test 3	0.0	0.0	0.0	0.0
Modification #11-Buck 4 (1994)				
Comparison Test 1	2981.3	1471.0	169.3	113.4
Comparison Test 2	827.3	264.0	36.7	24.6
Comparison Test 3	4.8	2.4	0.2	0.1

Modification #10-Buck 5 (1991)				
Comparison Test 1	9767.9	3855.8	387.1	259.4
Comparison Test 2	2415.9	1223.9	87.8	58.8
Comparison Test 3	97.7	49.5	3.6	2.4
Modification #28-Buck 6 (1990)				
Comparison Test 1	9678.2	3179.8	249.5	167.2
Comparison Test 2	361.1	356.3	2.1	1.4
Comparison Test 3	50.0	33.2	2.0	1.3
Modification #21-Cliffside 1 (1993)				
Comparison Test 1	6267.9	2249.2	503.8	337.5
Comparison Test 2	528.8	272.2	51.4	34.4
Comparison Test 3	2.7	1.4	0.3	0.2
Modification #17-Cliffside 2 (1993)				
Comparison Test 1	5468.3	2158.5	759.8	509.1
Comparison Test 2	641.1	308.3	108.6	72.8
Comparison Test 3	0.0	0.0	0.0	0.0
Modification #18-Cliffside 3 (1991)				

Comparison Test 1	9183.8	3295.6	862.2	577.7
Comparison Test 2	960.4	429.2	110.7	74.2
Comparison Test 3	45.2	20.2	5.2	3.5
Modification #19-Cliffside 4 (1991)				
Comparison Test 1	6525.7	2341.8	637.5	427.1
Comparison Test 2	771.9	395.3	89.1	59.7
Comparison Test 3	5.7	2.9	0.7	0.5
Modification #20-Cliffside 5 (1992)[4]				
Comparison Test 1	30934.4	10164.1	1339.1	897.2
Comparison Test 2	10339.1	4394.2	53.1	35.6
Comparison Test 3[4]	0.0	0.0	0.0	0.0
Modification #20-Cliffside 5 (1995)[4]				
Comparison Test 1	24077.8	3089.8	2496.1	1672.4
Comparison Test 2	5687.6	2464.6	-	-
Comparison Test 3	177.7	48.3	14.1	9.4
Modification #22-Dan River 3 (1998)				
Comparison Test 1	10755.8	4245.7	609.7	408.5
Comparison Test 2	2160.0	1065.8	147.3	98.7
Comparison Test 3	617.9	304.9	51.2	34.3
Modification #29-Marshall 1 (1992)				
Comparison Test 1	14217.7	4581.1	272.5	182.6
Comparison Test 2	4067.5	1491.3	-	-
Comparison Test 3	212.9	83.3	8.4	5.6
Modification #15-				

Marshall 2 (1989)				
Comparison Test 1	14146.0	4456.2	1198.9	803.3
Comparison Test 2	2690.8	1091.9	42.3	28.3
Comparison Test 3	873.2	358.1	62.2	41.7
Modification #16-Marshall 2 (1996)				
Comparison Test 1	10356.4	373.6	1673.7	1121.4
Comparison Test 2	5233.8	-	924.8	619.6
Comparison Test 3	131.3	37.0	9.1	6.1
Modification #14-Marshall 3 (1999)				
Comparison Test 1	19530.2	4107.9	466.4	312.5
Comparison Test 2	502.2	188.3	88.4	59.2
Comparison Test 3	793.7	280.9	19.5	13.1

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Modification #13-Marshall 4 (1990)				
Comparison Test 1	22399.4	7166.8	2569.2	1721.4
Comparison Test 2	7347.2	2897.7	942.2	631.3
Comparison Test 3	1299.7	518.2	113.4	76.0
Modification #24-Lee 3 (1989/90)				
Comparison Test 1	9861.7	3387.2	227.5	152.4
Comparison Test 2	488.2	380.9	17.5	11.7
Comparison Test 3	162.8	78.7	4.6	3.1
Modification #25-Riverbend 4 (1990)				
Comparison Test 1	8691.3	2859.0	137.8	92.3
Comparison Test 2	1582.2	715.6	35.6	23.9
Comparison Test 3	93.6	42.3	2.1	1.4
Modification #26-				

Riverbend 6 (1991)				
Comparison Test 1	15395.7	5064.4	482.9	323.5
Comparison Test 2	2066.9	1247.2	102.0	68.3
Comparison Test 3	312.7	188.7	15.4	10.3
Modification #27-Riverbend 7 (1992)				
Comparison Test 1	10678.6	3512.7	340.1	227.9
Comparison Test 2	4215.2	1650.1	136.7	91.6
Comparison Test 3	313.1	122.6	10.2	6.8

Notes:

[1] "-" denotes a negative value or reduction in the comparison for that case. In many such cases, the NO_x comparisons show a reduction because of the installation or planned installation of low-NO_x technologies at that unit that were factored into the calculation of future projected NO_x emissions. PM emissions were somewhat erratic given the significant variability in the annual PM source test results that were used in the calculations.

[2] PM_{10} was estimated as 67% of PM emissions, per AP-42, Table 1.1-6.

[3] For this modification, it should be noted that its capacity factor in the baseline year as well as in the projection years was generally high given that it is a base loaded unit. For example its baseline year capacity factor was around 73% while its average post-mod year 1/2 and year 9/10 capacity factor projection were 76% and 78.5%, respectively. Even though there is a capacity factor increase, there appears to be a reduction in the projected SO_2 emissions in the projected years as compared to the baseline period because the sulfur content in the coal in the baseline period (i.e., 24 month period with the highest SO_2 emissions for this potentially WEPCO Rule-eligible unit) was higher (i.e. 0.99%) than in the years preceding the modification (0.83%) and the latter

was used to make the future projections, giving Duke the benefit of lower sulfur content in the future, even though this low sulfur content is not enforceable via permits or other means. If, on the other hand, an average sulfur content for the entire five year period preceding the modification (0.89%) is used for all calculations (i.e. baseline actual and future projections[)], there would be an increase in Comparison Test 2 for this case.

[4] Although the complaint listed the modification as having occurred in 1992 and 1995, emissions calculations are provided for both 1992 and 1995 changes separately. The lack of GADS based losses attributable to the economizer prior to the 1992 modification (in which the economizer was replaced given its documented [see Bates 62CS001] poor performance in preceding years) needs further discussion. Closer inspection of the GADS data show that this base load, low heat rate (i.e., economically efficient) unit was

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not operating for a significant portion of time preceding the 1992 modification and was listed as being in reserve shutdown. It is possible that repairs to the malfunctioning economizer were made during periods of reserve shutdown and therefore such periods of time did not get attributed to the economizer repair.